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ABSTRACT

This study, based on data from the Community College Student Experiences Questionnaire national survey, examined comparative differences in the quality of student efforts in various college experiences and in their perceptions of career preparation gains. The study measured responses of students (N=1,891) from four groups of vocational programs: business, health, technical/communications, and trade industry. Other variables examined were: gender and age; grades, full- or part-time status, and number of units being taken; and involvement, defined as hours per week spent studying. The results indicated differences among vocational groups not only in the amount of effort exerted but also in perceived gains in career preparation, while regression analysis indicated that influences of student characteristics and quality of effort also differed among the four groups. Among findings was that students in health programs, who were generally older and predominantly female, differed substantially from the other students, in that they spent more time studying, exerted greater effort, and perceived the greatest gains in career preparation. Two tables summarize variable means and standard deviations for the total sample and each vocational group; and separate regression analyses of each of the four vocational groups. (Contains 17 references.) (CH)

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Factors Affecting Gains in Career Preparation: A Comparison of Vocational Groups

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held in Memphis, Tennessee, October 31 - November 3, 1996. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

Abstract

The Community College Student Experiences Questionnaire (CCSEQ), a recently developed self-report instrument, contains measures for both student involvement, manifested as quality of effort in various college experiences, and gains toward educational goals making it possible for two-year institutions to easily investigate the relationships between these two variables. The present study used data from this instrument to examine the comparative differences in the quality of students' efforts in various college experiences and in the perceptions of career preparation gains of students from four groups of vocational programs: business, health, technical/communications, and trade/industry. The differential effects of these efforts on gains in career preparation, controlling for student background and student status measures, were also examined. Results indicated that the vocational groups differed not only in the amount of effort students exerted in certain college experiences but also in perceived gains in career preparation. The students in the health group exerted the greater quality of effort in all of the college experiences, and perceived the greatest gains in career preparation. Regression analyses indicated that the influences of student characteristics and quality of effort measures on student perceptions of career preparation gains also differed for the four groups. These results imply that, in developing and explaining career gains, vocational students from diverse programs should not necessarily be viewed as a single homogeneous group.

Factors Affecting Gains in Career Preparation:

A Comparison of Vocational Groups

Over the past two decades, students' involvement in college activities has come to the forefront of educational research as a determining factor affecting college outcomes. In their review of twenty years of research on how colleges affect students, Pascarella and Terenzini (1991) noted that studies consistently indicated that various aspects of students' academic and social involvement within the institution have positive impacts on their likelihood of persistence and their social and intellectual growth and development. One researcher who furthered a great deal of knowledge in this area, including instrument development, is C. Robert Pace. He stated that students' gains depend on the "amount, scope, and quality" of their effort (Pace, 1979b, p. 127), noting that the latter two aspects are crucial for growth and development. He also described the "quality of effort" (p. 128) students invest in a particular college event or experience as participation in related college activities which range in difficulty from routine and moderate to difficult and complex, from doing simply what is required to working and exploring independently. Amount and scope of students' efforts refer to the frequency of efforts and the extent of participation in different college events and experiences. Pace (1979a, 1983) operationalized his concept of student involvement as the Quality of Effort scales contained within his College Student Experiences Questionnaire (CSEQ).

Pace's conception of quality of effort as a manifestation of student involvement was a dominant presence in more than a decade of research relating students' involvement to college outcomes, but the focus of this research was on students attending four-year institutions while students attending two-year institutions were virtually overlooked. Then in 1990 Friedlander, Pace, and Lehman published the Community College Student Experiences Questionnaire (CCSEQ) to measure student involvement at two-year institutions. This instrument was developed using the same concepts as the CSEQ, namely the

quality of students' efforts, yet reflecting the experiences of community college students (Lehman, 1992).

Since its publication, the CCSEQ has been a useful tool in assessing students' involvement and institutional effectiveness (Friedlander, Murrell, & MacDougall, 1993). Comparative studies using the CCSEQ have proven useful in examining differences between student groups. For example, two studies compared the levels of student involvement in various college experiences using student groupings based on race and reasons for attending college. Both studies used data from four two-year colleges in Tennessee. Faith and Murrell (1992) found strong similarities in the social and academic quality of efforts between black and white students. Douzenis and Murrell (1992) found that students who were attending these same community colleges in order to gain job skills were less involved in college activities than students who planned to transfer to a four-year institution. A third study used national demographic and descriptive data provided by Lehman (1991) as a basis of comparison for local data (Douzenis, 1994). Studies such as these provide important information to the policy makers, instructors, and students of these institutions.

Although the emergence of the CCSEQ has elicited a variety of research to determine and compare involvement and educational gains among student groups at community colleges, this research has failed to consider the diverse experiences associated with the different vocational programs which might arise from the substantial variety in the nature of the various programs. This omission is surprising given the apparent differences in the course work of various vocational programs. The unique aspects of various vocational programs should result in different student experiences and educational gains, in much the same way that different majors constitute different student experiences due to the nature of the disciplines studied. Thus, the types of involvement that students become engaged in and the educational gains which students achieve should be different not only for students within diverse

majors, but also for students within various vocational programs. In fact, research has confirmed that the academic and social experiences of students are influenced by their major field of study and students are more knowledgeable in subject areas which relate to their field of study (see Pascarella & Terenzini, 1991, for a review of this research). These relations of student experiences and educational gains to major field of study are also reflected in the results of the CSEQ's Quality of Effort scales and self-estimates of gains (Pace, 1982). Because the CCSEQ was patterned after the CSEQ and because different vocational programs emphasize different areas of knowledge, it is logical to expect these same relations to be evident across differing vocational groups. Consequently, the educational needs of these students will best be met by understanding what types of experiences lead to the greatest educational development and subsequently making concerted efforts to see that those opportunities are provided.

Using data from the CCSEQ instrument, this study addresses the issue of the diverse experiences of vocational students from differing programs in two ways. First, mean responses of students from four groups of vocational programs were examined for comparative differences in the quality of efforts students expended in various college experiences and in students' perceptions of career preparation gains. Second, the effects of these efforts on gains in career preparation, controlling for student background and college student status measures, were analyzed to determine if the quality of efforts expended by students from differing vocational programs differentially influenced career preparation gains.

METHODS

Instrumentation and Sample

Data for this study originated from student responses to the Community College Student Experiences Questionnaire (CCSEQ). National data consisting of transfer and vocational students were collected by participating two-year institutions and compiled by the Center for the Study of Evaluation, UCLA, Los

Angeles, CA (1990 - 1994) and, subsequently, by the Center for the Study of Higher Education, the University of Memphis, Memphis, TN (1995). This study selected vocational students only (N = 3,161), defining these students as those who were enrolled in a vocational program and attending college to gain skills either for a new or a current job. Students enrolled in vocational programs indicated which one of eight broad categories best described their vocational program (e.g., computer programming and industrial technology were categorized as technical/communications vocations; construction trades and automotive mechanics were categorized as trade/industry vocations).

To make comparisons between vocational groups possible, only those groups with 200 respondents or more were selected which reduced the sample size to 2,528. The vocational groups selected, and their respective sample sizes, were business (n_1 = 598), health (n_2 = 918), technical/communication (n_3 = 394), and trade/industry (n_4 = 618). Choosing only valid entries across all variables (i.e., omitting students with any missing items), reduced group sample sizes to 433, 729, 296, and 433, respectively, resulting in a total reduced sample of 1,891 students.

Measures

In addition to vocational group, variables relating to student background, student status, and student involvement were selected to examine their effects on gains in career preparation.

Student Background

Gender and age were considered for student background measures. Gender was coded 1 = male and 2 = female. Respondents reported their age as one of 6 categories ranging from 1 = 19 years old or younger to 6 = over 55 years old.

Student Status and Classification

Self-reported grades were used as a substitute measure for student academic status, or student academic ability, a practice advocated by Pace (1984). Students reported their predominant grades at the college they were currently attending on a scale ranging from 1 = lower than C- to 6 = A.

Students who were attending college for their first term and therefore did not have any grades were not included in the analyses.

Students were also classified in three ways, by full-time/part-time enrollment status, by the total number of credits taken at that college, and by the vocational programs in which they were enrolled, as noted earlier (the four vocational groups were quantified using three coded vectors). Students were classified as full-time or part-time according to their current registration with 1 = 12 units or more (full-time), and 2 = 11 units or less (part-time). Students reported their total units taken at the college they were currently attending, including the units they were taking at the time of response, on a scale from 1 = 1 to 15 credits to 4 = 46 or more credits.

Student Involvement

Student involvement was measured by the number of hours per week spent studying or preparing for class and by seven Quality of Effort scales. Students reported the number of hours per week spent studying on a scale from 1 = 1 to 5 hours to 5 = more than 20 hours.

Various college activities items, grouped by topic, made up the scales measuring students' quality of effort in this study. These scales reflect effort in course learning (reliability = .87), library activities (reliability = .85), science activities (reliability = .93), writing activities (reliability = .88), vocational skills (reliability = .90), student acquaintances (reliability = .88), and interactions with faculty beyond the classroom (reliability = .86). The number of items comprising each scale was 10, 7, 9, 8, 7, 6, and 8, respectively. Students reported how often they had done each of the items during the current school year (1 = never to 4 = very often). A detailed description of items making up each scale is given in Lehman, Ethington, and Polizzi (1995). Art/music/theater, the eighth Quality of Effort scale included in the CCSEQ instrument, was omitted from this study because these items better relate to artistic gains and personal gains rather than gains in career preparation in the program groups considered here.

Outcome Measure: Gains in Career Preparation

The CCSEQ measures students' perceptions of gains or progress toward 23 educational goals. Four of these items relating to career goals were used to construct a scale measuring gains in career preparation. Students estimated the amount of gains they had achieved through college experiences at the college they were currently attending in the areas of job-specific knowledge and skills, information about career opportunities, developing clearer career goals, and becoming familiar with different fields of knowledge (1 = very little to 4 = very much). The scale was constructed by summing across the four items. It had a reliability of .80, and ranged from 4 to 16.

RESULTS

Comparisons of Means

The means and standard deviations for the total sample and for each of the four vocational groups are shown in Table 1. Group means were compared for each variable using the Analysis of Variance (ANOVA) procedure. Tukey-HSD was used as the follow-up procedure for significant ANOVAs. Follow-up tests results are indicated at the bottom of Table 1.

Insert Table 1 About Here

All ANOVAs, except for those of full-time/part-time status and grades, were highly significant ($p < .0001$). However, heterogeneous variances among groups were found using Cochran's C (alpha = .05) for gender, total number of units, hours per week spent studying, and efforts devoted to course work, science, and student acquaintances. Redefining the .05 alphas for these ANOVAs to .01 for liberal F-tests and to .10 for conservative F-tests, as recommended by Stevens (1992), led to the same conclusions of significance. Tests were considered liberal when large sample variances were associated with small group size and conservative when large sample variances were associated with large group size.

Follow-up tests showed that the percentages of females in the business and the health groups were similar (approximately 90% for each group) and significantly greater than that of the technical/communications (39%) and the trade/industry (20%) groups. More older students (23 years old and older) were seen in the health group, while the mean ages of the remaining three groups did not differ. Grades in each group centered around A-, B+, and B. Approximately 40% of the students in each group were enrolled part-time and 60% were enrolled full-time. On average, the health students had accumulated more total credits (31 credits or more) and spent more time studying per week than students in the other groups.

The quality of efforts of the health group were significantly greater than those of the other groups in the areas of course work, science, vocational skills, and faculty interactions. Although the health group exerted the greater quality of effort in all of the various college activities, the business group exerted similar efforts in writing activities and in library activities, and the technical/communications group exerted similar efforts in making student acquaintances. The health group also perceived significantly greater gains in career preparation than those of the remaining three groups, all of which perceived similar gains.

Regression Analyses

Initially, a test was performed to determine if the influences of student characteristics and quality of efforts on perceptions of career preparation gains were the same for the four groups of students or whether separate regressions would be necessary. A reduced regression model with all independent variables entered (13 variables and three vocational program coded vectors) was tested against a full model which included the interaction effects (13 variables, three coded vectors, and 39 interaction effects). Interaction effects vectors were formed by crossing vocational program coded vectors with all other independent variables. The result of this test was a significant R^2 change of .0225 ($p < .05$), with overall R^2 of .3219, indicating

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that the influences were not the same for the four groups and that separate regression lines should be used.

Separate regression analyses

Results of the separate regression analyses for the business, health, technical/communications, and trade/industry vocational groups are shown in Table 4. The proportion of variance explained in perceptions of career preparation gains ranged from 21% for the business students to 33% for the health students and the technical/communications students.

Insert Table 2 About Here

Five of the student involvement measures, specifically efforts in the areas of course work, library activities, writing activities, vocational skills, and interactions with faculty outside of the classroom, had significant positive effects on career preparation gains in one or more vocational groups. The measures of efforts which were significant in more than one group were tested for the comparative magnitudes of their unstandardized regression coefficients (bs) using t-tests (alpha level set at .01). Results of these t-tests showed that the magnitudes of influences were the same across groups, with the exception of effort in developing vocational skills.

Quality of effort devoted to vocational skills was the only variable which was significant for all four groups. In addition, this variable's relative importance, which is based on the magnitudes of significant standardized regression coefficients (betas) within each equation, was the greatest for each group. These results indicate that effort devoted to vocational skills affected the greatest gains in all four groups. However, t-tests showed that the magnitudes of influences were not the same across groups, as noted previously. Effort devoted to vocational skills was more important for the health and the trade/industry groups than for the business

group (i.e., the magnitudes of the bs of these two groups were significantly greater than that of the business group, and similar). Therefore, although the relative importance of perfecting vocational skills as a means of career development was the greatest for all four groups, its comparative importance was greater for the health and the trade/industry groups than for the business group.

Student background measures affected significant gains in the business, the health, and the technical/communications groups. Health students who were younger and enrolled part-time perceived more gains than their older, full-time counterparts; students in the business and the health groups who had higher grades perceived greater gains than those who had lower grades; business, health, and technical/communications students who had taken more units perceived greater gains attributable to their college experiences than those who had taken fewer units, all else being equal. Comparing the unstandardized regression coefficients of these variables across the groups indicated that the magnitudes of their effects were the same.

DISCUSSION

From the descriptive and comparative analyses reported above it is evident that the characteristics of the students in the four vocational groups differ substantially. Students in the health programs appeared to be more unique relative to the other three groups. These students were generally older, dominantly female, spent more time studying, and exerted the greater effort in all of the quality of effort involvement measures. Not surprisingly then, they also perceived the greatest gains in career preparation. From these descriptive and comparative analyses alone there is strong support for Pace's theory (1979b) that increased effort on the part of students and the quality of that effort lead to their subsequent gains.

Not only did the four groups of students differ in make-up, effort expended, and gains, but the regression analyses indicated that the relationships between student gains and the various student characteristics

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and involvement efforts also differed across the groups. The separate regression analyses showed that many of the variables which affected gains in career preparation, and the relative importance of these variables in impacting those gains, differed from group to group.

However, one major similarity among the separate regression analyses serves to validate the CCSEQ Quality of Effort scales and career preparation gains scales, and their usefulness in the study of vocational students. The quality of effort in perfecting vocational skills affected the most career preparation gains in all four groups. We would expect this because vocational programs tend to emphasize job-specific knowledge and skills. Therefore, it is logical to expect effort in vocational skills activities to be strongly related to gains in career preparation. The CCSEQ's reflection of this logical association in all four vocational groups validates the use of this instrument in the study of vocational students. It also substantiates the importance of providing opportunities for students to become involved in activities which relate to greater career preparation gains.

Although developing vocational skills is obviously an important aspect of career preparation in any vocational program, results indicate that the impact of developing vocational skills was greater for the health and the trade/industry groups than for the business group. It appears that in the health and the trade/industry groups the application of knowledge acquired in the classroom, or a "hands on" experience, is more important than simply acquiring knowledge when preparing these students for their careers. These results imply that, although it is important for institutions to provide opportunities for all vocational students to perfect their vocational skills, particular attention needs to be paid to providing these opportunities to students in the health and the trade related fields.

More obvious differences among the regression analyses also exist which further emphasize the unique aspects of efforts contributing to the explanation and development of career preparation gains of students from

differing vocational programs. The significance and relative importance of the effects of various students' efforts on career preparation gains differed from group to group. In addition, it is evident that there are activities that are uniquely important depending upon the program of study (i.e., library activities, writing activities, and interactions with faculty beyond the classroom). These differing relationships reflect the diverse experiences which arise from the different vocational programs. It is crucial to also note that these results do not imply that the efforts which were nonsignificant in each group are somehow unimportant, because these efforts are related to other desired outcomes. However, in terms of career preparation, efforts in particular activities significantly affect positive gains in certain groups when controlling for the effects of other independent variables. These activities are those which faculty and administrators should pay close attention to when creating opportunities for students to actively maximize their gains in career preparations.

Clearly, the results discussed previously show that the quality of students' efforts in various college events are important in affecting positive gains in career preparation. Furthermore, quality of effort was of greater importance than the number of hours per week spent studying and the total number of units taken, or length of stay within the program, both of which constitute "time on task" according to Pace (1982, p. 20). The number of hours per week spent studying was nonsignificant in all four groups. Coupled with the significance of the quality of students' efforts in certain areas, these results imply that it is not merely the number of hours per week students spend studying or preparing for class which significantly affects gains in career preparation, but the <u>quality</u> of how that time is spent which contributes to increases in gains. These results support those of Friedlander (1980, 1990) and Pace (1984) which showed that students who spent their study time focusing on more complex and independent studies made more progress toward related goals than students who studied more hours per week but focused

on routine and less independent activities.

Although the total number of hours taken significantly affected positive gains in three of the four groups, it was of secondary importance to the efforts that students expended in various activities. These results agree with those of earlier studies in four-year institutions in that students gained more knowledge the longer they had been in college, or the more courses they had taken (reviewed in Pascarella and Terenzini, 1991). However, the quality of their efforts in certain college activities provided an even greater impact on gains than did the number of courses they had accumulated, a finding which Pace (1982) also demonstrated using the CSEQ.

The most distinctive of all the groups was the health group. These students not only differed dramatically in the descriptive analyses, exhibiting the greater quality of efforts in all of the seven college activities, having significantly greater efforts than the other three groups in four of the activities, and perceiving the greatest gains, but they also differed notably in the regression analyses.

One quite obvious difference in the regression analysis of the health group relative to that of the others was the significance of two background measures, age and full-time/part-time status, which were not significant in any other group. Health students who were younger perceived greater career preparation gains attributable to their college experiences than their older counterparts, other things being equal. It may be that these older students attribute much of their gains in career preparation to previous work and life experiences prior to entering or returning to college, thereby minimizing any gains which they might attribute to their college experiences. Part-time health students perceived greater gains than their full-time counterparts, all else being equal. These greater gains may be explained, in part, by the quality of efforts of part-time health students in general. Bivariant correlations showed that part-time health students exerted the same efforts as full-time health students, unlike part-time students in the other groups who

exerted less efforts than their full-time counterparts in many or all of the quality of effort areas.[1] These results imply that part-time students who exert the same efforts as their full-time counterparts can perceive the same gains in career preparation.

IMPLICATIONS FOR PRACTICE

This study reaffirms the importance of the quality of students' efforts in achieving educational goals. Specifically, vocational students' quality of efforts in various college events are among the most important variables influencing their career preparation gains.

It also substantiates the use of the CCSEQ specifically for the study of vocational students, and identifies comparative differences among four vocational groups. It is evident from these results that the quality of vocational students' efforts in perfecting vocational skills is most important in impacting positive gains in career preparation regardless of vocational program, but the effects of efforts in other areas (e.g., library activities and interactions with faculty beyond the classroom) are a function of the general vocational program area in which the student is enrolled.

Important implications can be derived from these results. First, career preparation gains of vocational students can be enhanced by creating opportunities for student involvement in a wide range of college activities, from routine to complex. Second, these gains can be further enhanced by considering the diverse experiences which arise from distinctive vocational programs and by encouraging student involvement in complex and independent activities which specifically relate to greater gains in career preparation. Finally, other outcomes may also be affected differentially in much the same way as career preparation. Therefore, future research should examine alternative outcome measures, such as gains in communications skills and math/science/technology skills, to determine if factors affecting these outcomes differ across vocational groups as well.

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Footnotes

1. Correlations among all variables for each vocational group are available from the author upon request.

Table 1. Variable means and standard deviations for the total sample and for each of the four vocational groups.[a]

Variables	Vocational Groups				
	Total Sample	Business	Health	Tech./ Comm.	Trade/ Industry
1. Gender	1.66 (0.48)	1.89 (0.31)	1.90 (0.31)	1.39 (0.49)	1.20 (0.40)
2. Age	3.28 (1.21)	3.19 (1.28)	3.51 (1.10)	3.18 (1.21)	3.06 (1.25)
3. Full-time/ Part-time	1.41 (0.49)	1.44 (0.50)	1.39 (0.49)	1.40 (0.49)	1.41 (0.49)
4. Total units taken	2.99 (1.11)	2.81 (1.15)	3.28 (0.97)	3.02 (1.09)	2.66 (1.18)
5. Grades	4.45 (1.19)	4.44 (1.18)	4.41 (1.16)	4.51 (1.26)	4.47 (1.20)
6. Quality of Effort: Course learning	26.31 (5.75)	24.62 (5.35)	28.18 (5.42)	25.65 (5.41)	25.27 (6.04)
7. Quality of Effort: Library activities	13.22 (4.35)	13.51 (4.08)	14.17 (4.12)	13.38 (4.16)	11.21 (4.46)
8. Quality of Effort: Science	17.36 (7.11)	12.49 (4.56)	21.12 (6.64)	17.68 (6.91)	15.69 (6.53)
9. Quality of Effort: Writing	20.71 (5.92)	22.11 (5.39)	22.08 (5.32)	21.03 (5.68)	16.77 (5.82)
10. Quality of Effort: Vocational skills	20.93 (5.12)	19.23 (5.22)	21.99 (5.16)	20.71 (4.77)	20.99 (4.69)
11. Quality of Effort: Student acquaintances	11.84 (3.96)	10.90 (3.61)	12.51 (3.90)	12.01 (3.95)	11.56 (4.19)
12. Quality of Effort: Faculty interactions	16.90 (4.57)	16.16 (4.09)	17.94 (4.64)	16.79 (4.53)	15.95 (4.59)
13. Hours per week studying	2.27 (1.23)	2.14 (1.14)	2.64 (1.27)	2.19 (1.19)	1.82 (1.09)
14. Career preparation	11.78 (2.75)	11.45 (2.60)	12.43 (2.71)	11.48 (2.62)	11.20 (2.83)
N	1,891	433	729	296	433

[a]Standard deviations are shown in parentheses.

Note. Results of Tukey-HSDs for each variable where 1 = business, 2 = health, 3 = tech./comm., and 4 = trade/industry. Underlines and parentheses indicate nonsignificance between means. Groups are arranged from low to high means.

1. 4 3 (1 2)
2. (4 3 1) 2
3. (2 3 4 1)
4. (4 1) 3 2
5. (2 1 4 3)
6. (1 4 3) 2
7. 4 <u>3 (1</u> 2)
8. 1 4 3 2
9. 4 3 (2 1)
10. 1 (3 4) 2
11. (1 <u>4)(3</u> 2)
12. (4 1 3) 2
13. 4 (1 3) 2
14. (4 1 3) 2

Table 2. Standardized and unstandardized regression coefficients for the separate regression analyses of the four vocational groups with dependent measure perceptions of gains in career preparation.[a]

Independent Variables	Vocational Groups			
	Business	Health	Technical & Comm.	Trade & Industry
Age	-.0704 (-.1428)	-.0963** (-.2385)	-.0327 (-.0709)	-.0101 (-.0230)
Gender	.0230 (.1903)	.0070 (.0622)	-.0158 (-.0844)	-.0088 (-.0628)
Full-time/ Part-time	.0546 (.2863)	.0648* (.3598)	.0182 (.0969)	.0119 (.0683)
Total units taken	.0924* (.2087)	.1311*** (.3667)	.1320* (.3158)	-.0117 (-.0280)
Grades	.1161* (.2554)	.0671* (.1564)	-.0034 (-.0070)	-.0393 (-.0928)
QE Course	.1453* (.0707)	.1161* (.0580)	.2485** (.1202)	.1051 (.0492)
QE Library	.0027 (.0017)	-.0242 (-.0159)	.1364* (.0858)	.0675 (.0428)
QE Science	.0596 (.0341)	.0660 (.0269)	.0231 (.0087)	-.0628 (-.0272)
QE Writing	.1187* (.0573)	.0169 (.0086)	.0758 (.0349)	.0798 (.0388)
QE Vocational skills	.1691*** (.0843)	.3254*** (.1707)	.2632*** (.1444)	.3488*** (.2104)
QE Student acquaintances	-.0182 (-.0131)	.0610 (.0424)	-.0229 (-.0152)	.0794 (.0537)
QE Faculty interactions	.1045 (.0665)	.0763 (.0445)	.0123 (.0071)	.1319* (.0813)
Hours per week studying	-.0553 (-.1266)	-.0397 (-.0846)	.0159 (.0351)	.0185 (.0480)
R^2	.2127	.3277	.3274	.2990
N	433	729	296	433

[a]Unstandardized regression coefficients are shown in parentheses.

Note. QE indicates Quality of Effort scale.

*p < .05; **p < .01; ***p < .001.